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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/943,749 08/30/2001 Charles A. Howland W0490/7031 8468

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EXAMINER

PIERCE, JEREMY R

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 08/14/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/943,749

Applicant(s)

HOWLAND, CHARLES A.

Examiner

Jeremy R. Pierce

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,8,17-22,28-39,44-47,57,62 and 67-73 is/are pending in the application.
- 4a) Of the above claim(s) 30-34,39,44-47,57,62 and 67-73 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8,17-22,28,29 and 35-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1, 8, 17-22, and 28, 29, and 35-38, drawn to a fiber bundle, classified in class 428, subclass 364.
 - II. Claims 30-34, drawn to a plied yarn, classified in class 57, subclass 211.
 - III. Claims 39, 44-47, 57, 62, and 67-73, drawn to a method of pre-washing a roll stock of fabric, classified in class 156, subclass various.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related to Invention III as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the process of pre-washing the fabric can be used with any type of fabric, rather than one made by the invention of Groups I and II.
3. Inventions I and II are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful in the manufacture of

fabrics without being made into a plied yarn and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants.

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with Vernon Maine on August 9, 2002 a provisional election was made with traverse to prosecute the invention of Group I, claims 1, 8, 17-22, 28, 29, and 35-38. Affirmation of this election must be made by applicant in replying to this Office action. Claims 30-34, 39, 44-47, 57, 62, and 67-73 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Drawings

6. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17 is indefinite because it is dependent upon claim 13, which has been cancelled. For the purpose of providing a complete examination, the Examiner will incorporate the limitations of claim 13 into claim 17, thus allowing for the article to comprise at least one fiber having tensile breaking strength of less than about 10 g/denier.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1, 8, 17-19, and 35-38 rejected under 35 U.S.C. 102(b) as being anticipated by Opitz (EP 962,562).

Opitz teaches a yarn for use in protective clothing where the core is high strength fiber and the sheath is high abrasion resistant dyeable fiber (Abstract). The core may

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be made from aramid fibers, polyamide fibers, or polyethylene (paragraph 15), and would have a strength of up to 27 cN/dtex (Table 1), which equals approximately 30.5 grams/denier. With regard to claim 8, Opitz teaches using para-aramid fibers for the core (paragraph 15). With regard to claim 17, Opitz teaches the sheath part of the fiber to comprise polyamide, polyester, or cotton. With regard to claim 18, Opitz does not specifically mention the dye composition, but polyester dyes must be used if polyester makes up the sheath (paragraph 38). With regard to claim 19, Opitz discloses the sheath can be spun staple fibers (paragraph 39). With regard to claims 35-37, the yarn is woven into protective clothing (paragraph 1).

Claim Rejections - 35 USC § 102/103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1, 8, 17-19, and 35-38 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fels et al. (U.S. Patent No. 5,514,457).

Fels et al. disclose a fiber bundle comprising core fiber of high strength fiber, such as Twaron (column 3, lines 28-35) and dyeable sheath fiber made of cotton, polyester, polyamide, or polyacrylonitrile (column 3, lines 58-65). The high strength core is made from multiple filaments (column 3, lines 40-51). Fels et al. do not

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specifically teach that the high strength core fibers have a tensile breaking strength of at least 10 g/Denier. However, the Examiner notes that Fels et al. disclose core material that is known to possess the strength required by Applicant's limitation, and the scope of Fels et al. is in the art of protective clothing, which normally provides fibers with a breaking strength of at least 10 g/Denier. The Examiner asserts that the limitation of tensile breaking strength would be inherent to the material disclosed by Fels et al. If not, then it would have been obvious to a person of ordinary skill in the art to create the article of Fels et al. with core fibers having a tensile strength of at least 10 g/Denier in order to create a protective garment with sufficient strength for puncture resistance. Note *In re Best*, 195 USPQ 433, footnote 4 (CCPA 1977) as to the providing of this rejection under 35 USC 103 in addition to the rejection made above under 35 USC 102. With regard to claim 19, spun staple fibers can form the sheath (column 3, line 55).

Claim Rejections - 35 USC § 103

13. Claims 22, 28, and 29 rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz or Fels et al.

With regard to claim 22, neither Opitz nor Fels et al. disclose a twist multiplier for the fiber bundles. If not already inherent to the fibers of Opitz or Fels et al., it would have been obvious to one having ordinary skill in the art to create the fiber bundles of Opitz or Fels et al. with a twist multiplier of at least 2.7 in order to create a sturdy fiber bundle with less chance of unraveling, since it has been held discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617

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F.2d 272, 205 USPQ 215 (CCPA 1980). With regard to claim 28, neither Opitz nor Fels et al. disclose the number of fibers present in the bundle. Fels et al. disclose that there are no limits on the filaments and yarn titers (column 3, line 47). The presence of 60 to 100 fibers in a fiber bundle would depend on the individual filament sizes and the desired thickness of the overall fiber bundle. It would have been obvious to a person having ordinary skill in the art to modify the fiber bundles of Opitz and Fels et al. to contain 60 to 100 fibers in order to optimize the fiber bundle to its desired thickness and desired individual filament size. With regard to claim 29, neither Opitz nor Fels et al. disclose dyeing the yarn so that the dyed fiber bundle is lighter in color than the undyed high strength yarns. However, it would have been obvious to a person having ordinary skill in the art to supply a dye that is lighter in color than the high strength core fibers as a matter of design choice.

14. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Opitz or Fels et al. in view of Prickett (U.S. Patent No. 5,853,885).

Neither Opitz nor Fels et al. disclose using a Cotton System or a Worsted System. Prickett discloses using both the Cotton System (column 2, line 65) and the Worsted System (column 4, line 37) for spinning fibers in the manufacture of protective clothing. It would have been obvious to one having ordinary skill in the art to spin the fiber bundles of Opitz or Fels et al. using the Cotton System or the Worsted System as a matter of obvious choice in production method, since both Systems are held to be known and common in the art.

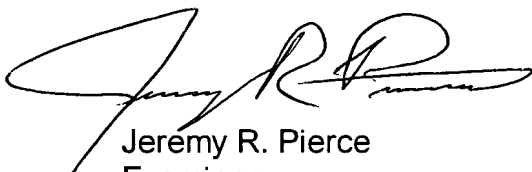
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Conclusion

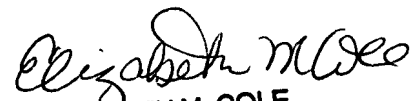
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy R. Pierce whose telephone number is (703) 605-4243. The examiner can normally be reached on Monday-Thursday 7-4:30 and alternate Fridays 7-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (703) 308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Jeremy R. Pierce
Examiner
Art Unit 1771


ELIZABETH M. COLE
PRIMARY EXAMINER

August 9, 2002